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(56) Documents Cited

JP 090150904 A

NL 008503540 A

US 6149025 A

US 3775903 A

JP 2001027776 A

(58) Field of Search

UK CL (Edition S) B8K KAB

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(54) Abstract Title

Collapsible case

(57) A case has a bottom (10), multiple sides (12) and a frame. Each side (12) extends upward from one of the edges of the bottom (10). Each side (12) has opposite edges each connected to one edge of the adjacent side (12) and a top. The frame has multiple flexible longitudinal rods (14) and multiple flexible lateral rods (16). Each longitudinal post (14) is mounted in the joint between two edges of the adjacent sides (12). Each flexible lateral post (16) is mounted in the top of each side (12). With such an arrangement, the case is collapsible and can be folded flat when the case is not used. To store and to transport become more convenient.

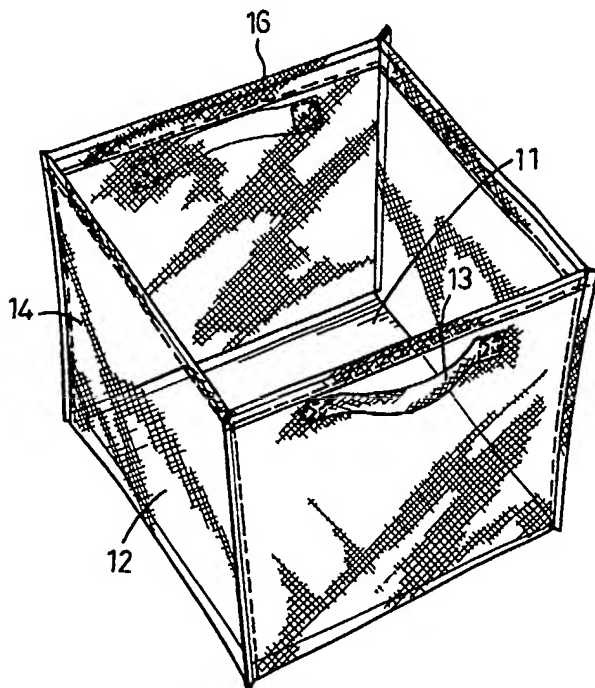


FIG. 1

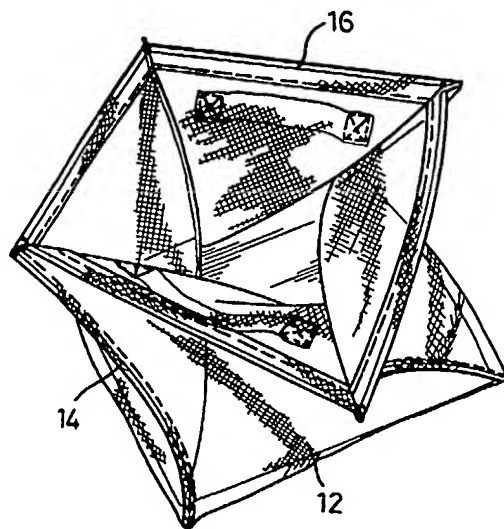


FIG. 4

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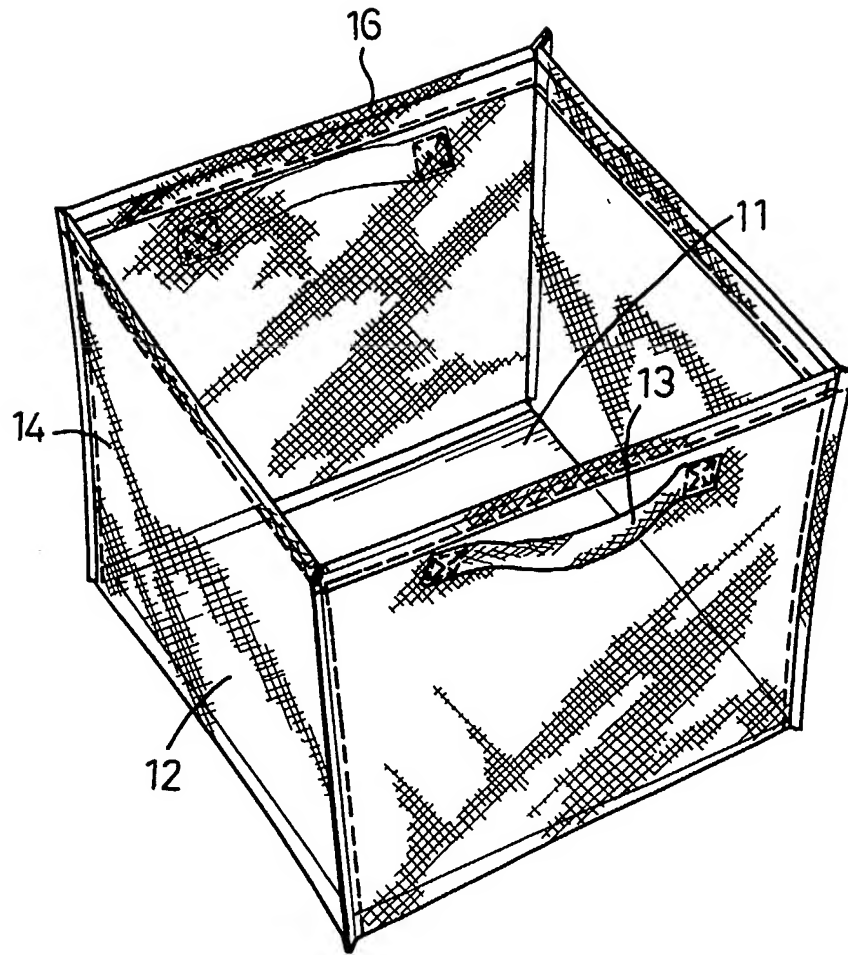
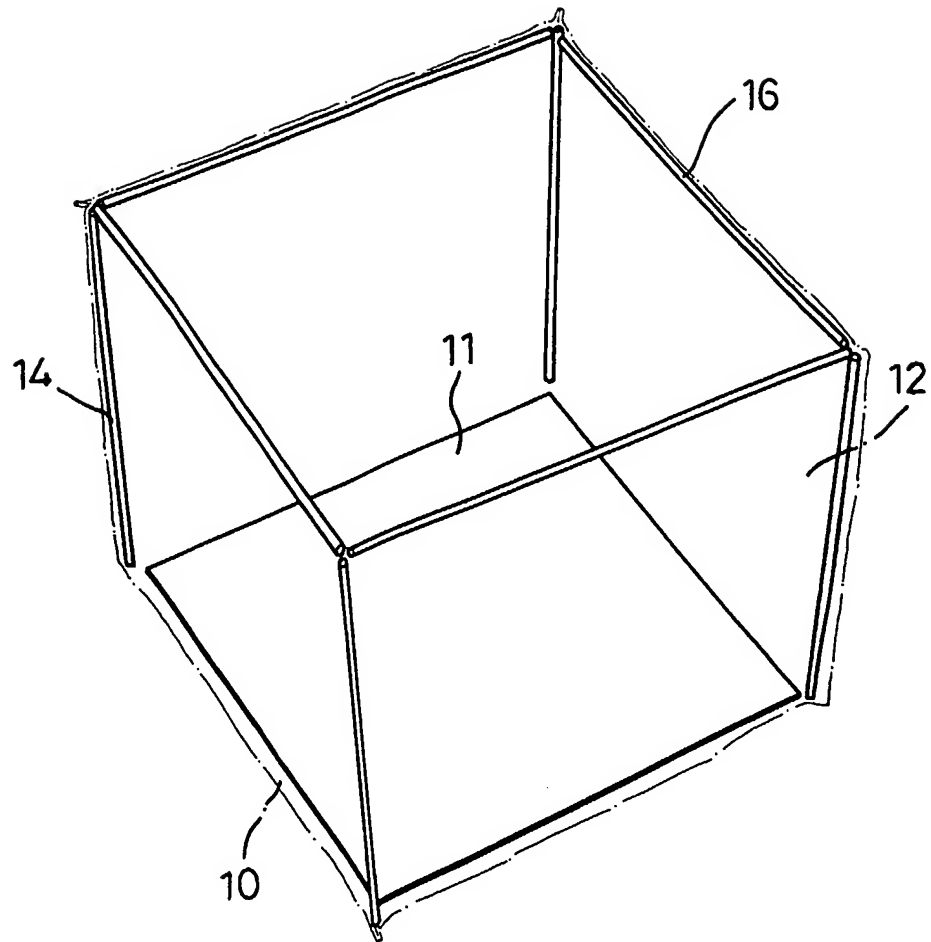
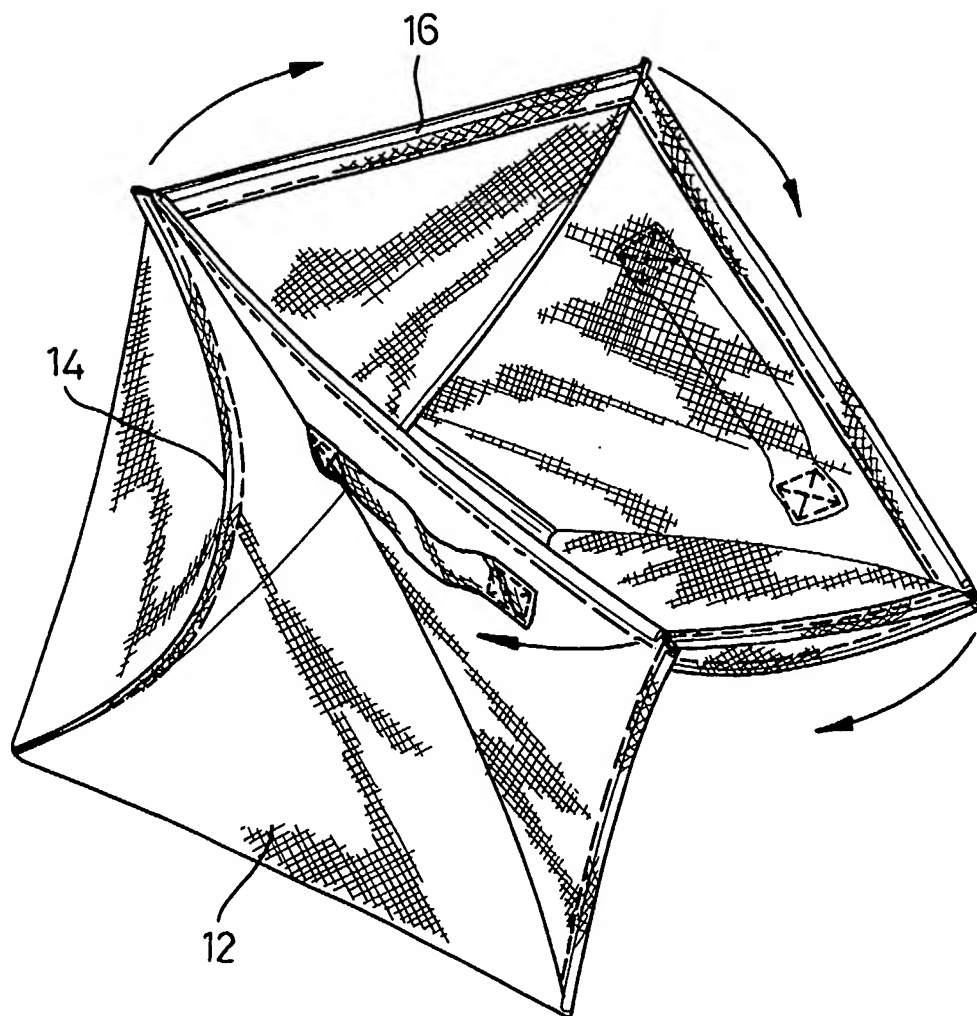


FIG. 1

**FIG. 2**

**FIG. 3**

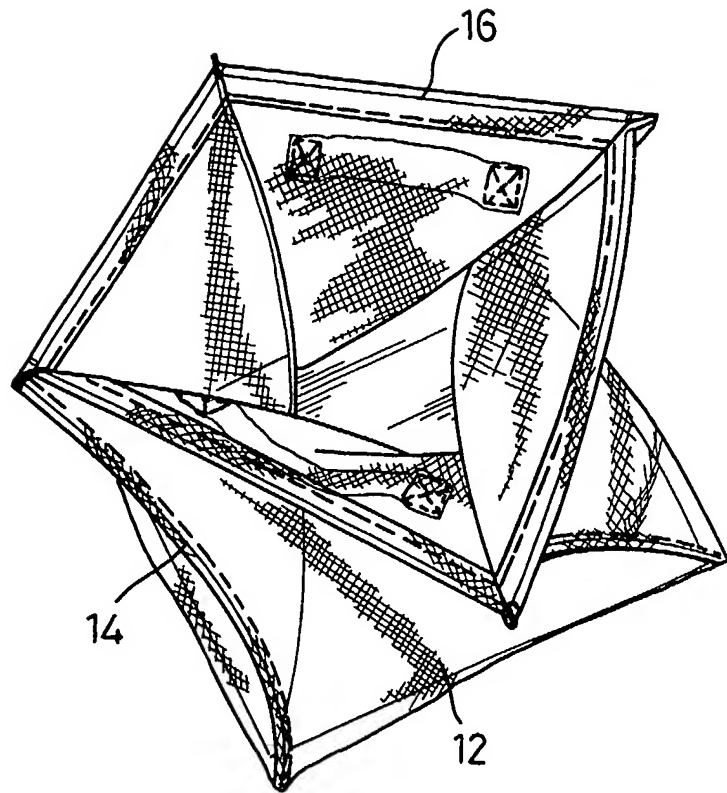
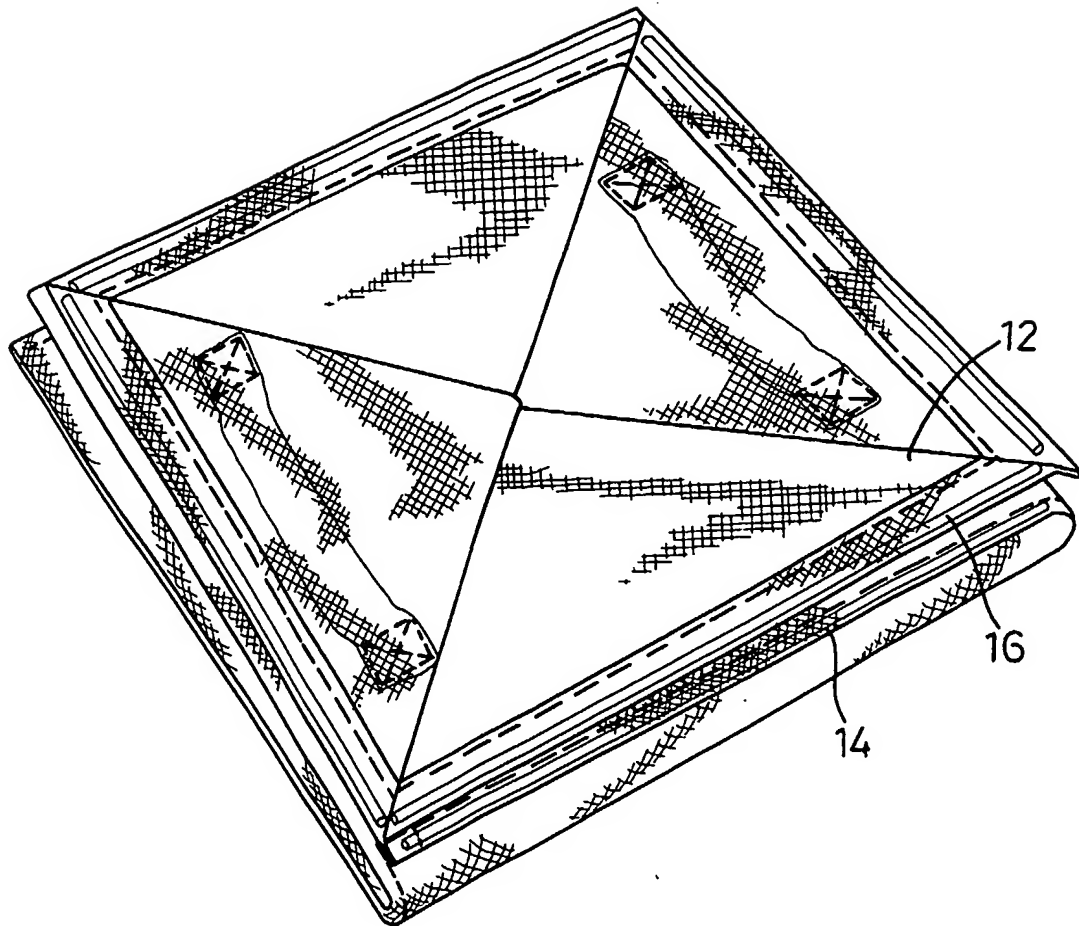


FIG. 4

**FIG. 5**

COLLAPSIBLE CASE

1. Field of the Invention

The present invention relates to a case, and more particularly to a case that can be folded flat when the case is not in use.

2. Description of Related Art

A case is used to contain objects. A conventional case always has a bottom and multiple sides. Each side extends upward from one of the edges of the bottom, such that a space is defined between the sides to hold objects. However, because the conventional case is not foldable, a large space is required to store the case when the case is not used. To store and to transport the conventional case are inconvenient.

To overcome the shortcomings, the present invention provides a collapsible case to mitigate or obviate the aforementioned problems.

The main objective of the invention is to provide a collapsible case that can be folded flat when the case is not used. The case has a bottom, multiple sides and a frame. Each side extends up from one of the edges of the bottom. Each side has opposite edges each connected to one of the edges of an adjacent side and a top. The frame has multiple flexible longitudinal rods and multiple flexible lateral rods. Each longitudinal post is mounted in the joint between two edges of adjacent sides. Each flexible lateral post is mounted in the top of each side. Consequently, the frame can support the bottom and the sides, and a space is defined between the bottom and the sides to hold objects. In addition, the case can be folded flat when the case is not used. To store and to transport the case is more convenient.

Other objectivess, advantages and novel features of the invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

IN THE DRAWINGS

Fig. 1 is a perspective view of a collapsible case in accordance with the present invention;

Fig. 2 is a perspective view of a frame to support the case in Fig. 1;

Fig. 3 and Fig. 4 are operational perspective views of the case in Fig. 1 showing that the case is twisted to fold the case; and

Fig. 5 is a perspective view of the case in Fig. 1 after the case has been folded flat.

With reference to Figs. 1 and 2, a case in accordance with the present invention comprises a bottom (10), multiple sides (12) and a frame. The bottom (10) has at least four edges (not numbered) with the same length. Each side (12) extends upward from one of the edges of the bottom (10). For example, if the bottom (10) is square, there are four sides (12) respectively on the four edges of the bottom (10). Each side (12) has opposite edges each connected to one of edges of the adjacent side (12). Consequently, a space is defined between the bottom (10) and the sides (12) to hold objects. In practice, the bottom (10) and the sides (12) are made of a foldable material like fabric, canvas, net or plastic material.

The frame is used to support the bottom (10) and the sides (12) in an expanded state. The frame comprises a base plate (11), multiple longitudinal rods (14) and multiple lateral rods (16). The base plate (11) is placed in the

space defined in the case and abuts the bottom (10), such that a bottom support is provided in the case. Each longitudinal post (14) is made of a flexible material. Each longitudinal post (14) is mounted in the joint between two edges of adjacent sides (12). Each longitudinal post (14) has a length substantially equal to the edge of the corresponding side (12). The longitudinal rods (14) can provide a longitudinal supporting effect to the sides (12) so they will stand vertically.

Each lateral post (16) is made of a flexible material and mounted in the top of each side (12). Each lateral post (16) has a length substantially equal to the width of the top of the corresponding side (12). The lateral rods (16) can provide a lateral supporting effect to the sides (12). Consequently, the bottom (10) and the sides (12) can be supported to form a case with an opening to hold objects.

With reference to Figs. 3 to 5, when the case is not used, the user holds opposite corners of the case and twists clockwise or counterclockwise. Because the sides (12) are foldable and the rods (14,16) are flexible, the sides (12) can be folded and the rods (14,16) can be bent. Consequently, the longitudinal rods (14) can be rotated to be parallel to the edge of the bottom (10) and the lateral rods (16), such that the case can be folded to a flat state as shown in Fig. 5. The storage space of the case is reduced. To store and to transport the case become more convenient.

Even though numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and function of the invention, the disclosure is illustrative only, and changes may be made in detail, especially in matters of shape, size, and

arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

CLAIMS:

1. A case comprising:

a bottom having multiple edges;

a side extending upward from each edge of the bottom and having opposite edges each connected to one edge of the adjacent side and a top so as to define a space between the bottom and the sides;

a flexible longitudinal post mounted in a joint between two edges of each adjacent sides; and

a flexible lateral post mounted in the top of each side.

2. The case as claimed in claim 1, wherein each longitudinal post has a length substantially equal to the edge of the side in which the longitudinal post is mounted.

3. The case as claimed in claim 1, wherein each lateral post has a length substantially equal to a width of the top of the side in which the lateral post is mounted.

4. The case as claimed in claim 1 further comprising a base plate received in the space defined between the bottom and the sides and abutting the bottom to provide a bottom supporting effect to the case.



INVESTOR IN PEOPLE

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Claims searched: 1-4

Examiner: Darren Handley
Date of search: 26 November 2001

Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): B8K KAB

Int Cl (Ed.7): B65D 1/22, 37/00, 61/00; A45C 7/00

Other: Online: WPI, EPODOC, JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
A	US 6149025 A (WANG) - see column 1, line 66- column 2, line 44	
X	US 3775903 A (PIKE) - see column 1, lines 31- column 2 line 60.	1-4
X	JP 2001027776 A (NUMAO) - see figures 2 & 4a-4g, paragraphs [0018]-[0021] and WPI abstract AN-2001-208267 [21]	1-4
X	JP 9150904 A (OHASHI) - see figures 6a & 6b, paragraphs [0005]-[0006] & [0012]-[0013], and WPI abstract AN-1997-358886 [33]	1-3
X	NL 8503540 A (PRODUCT) - see figures 1-3 and WPI abstract AN-1987-233254 [33]	1-4

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.